**PROGNOSTIC UTILITY OF QRS FRAGMENTATION IN PATIENTS WITH NON ISCHEMIC CARDIOMYOPATHY**

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Objectives:Assess the utility ofQRS fragmentation (QRSf) for predicting heart failure hospitalizations (HFH) and mortality in patients with non ischemic cardiomyopathy (NICMP).

Background: QRSf is a predictor of adverse cardiac events in patients with coronary artery disease. Though recent studies have demonstrated increased risk of arrhythmias, the predictive ability of QRSf is unclear in NICMP. In light of recent evidence demonstrating a link between QRSf and mechanical dysynchrony, we hypothesized that QRSf would predict HFH and mortality in patients with NICMP.

Methods: Records of consecutive patients admitted to the Creighton University Medical Center with heart failure between 1/1 2003 and 12/31/2009 were screened. Patients with ejection fraction≤35%; negative angiogram or stress test, and narrow QRS (<120msec) were included. Admission EKGs were reviewed for QRS fragmentation. Baseline and follow up details were collected retrospectively. Relationship between baseline QRSf, all-cause mortality and repeat HFH was assessed.

Results: Out of 95 included patients, 39 (41%) had repeat HFH and 18 (19%) died over a mean follow up of 694 days. QRSf in ≥2 leads was noted in 44 (46%) patients. QRS duration was longer & loop diuretic use was higher in QRSf group. Other baseline characteristics were similar. QRSf did not predict all-cause mortality, HFH or composite of HFH and death. There was no difference in time to HFH or death in the 2 groups (Table 1).

Conclusion: In patients with NICMP and narrow QRS, QRSf does not predict recurrent HFH or all-cause mortality.

Table 1

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| --- | --- | --- | --- | --- |
|  | No QRSf (n=51) | QRSf (n=44) | Total (n=95) | p value |
| Males, n(%) | 36 (71) | 29 (66) | 65 (68) | 0.625 |
| Hypertension, n(%) | 34 (67) | 29 (66) | 63 (66) | 0.983 |
| Diabetes Mellitus, n(%) | 18 (35) | 11 (25) | 29 (31) | 0.277 |
| Smoking, n(%) | 29 (57) | 24 (55) | 53 (56) | 0.821 |
| Diastolic dysfunction Grade 1, n(%) | 8 (16) | 11 (25) | 19 (20) | 0.472 |
| Grade 2, n(%) | 8 (16) | 4 (9) | 12 (13) |  |
| Grade 3/4, n(%) | 5 (11) | 7 (16) | 12 (14) |  |
| Mitral regurgitation (≥moderate) , n(%) | 7 (14) | 5 (11) | 12 (13) | 0.739 |
| Ejection fraction, % | 23.78 | 24.14 | 23.95 | 0.829 |
| QRS duration, msec | 88.59 | 94.48 | 91.32 | 0.009 |
| B type natriuretic peptide, pg/ml | 1229 | 1144 | 1289 | 0.747 |
| Creatinine, mg/dl | 1.63 | 1.57 | 1.60 | 0.856 |
| Aldosterone blockers, n(%) | 8 (16) | 14 (32) | 22 (23) | 0.054 |
| Angiotensin blockers, n(%) | 27 (53) | 31 (70) | 58 (61) | 0.057 |
| Beta blockers, n(%) | 29 (57) | 32 (73) | 61 (64) | 0.076 |
| Loop Diuretics, n(%) | 24 (47) | 31 (70) | 55 (59) | 0.014 |
| Readmission, n(%) | 20 (39) | 19 (43) | 39 (41) | 0.695 |
| Death, n(%) | 7 (14) | 11 (25) | 18 (19) | 0.162 |
| Death or Readmission, n(%) | 22 (43) | 24 (55) | 46 (48) | 0.267 |
| Time to event (days) | 506 | 445 | 474 | 0.723 |